WHAT IS CLAIMED IS:

1. A telecommunications cable comprising a core having a plurality of pairs of twisted together individually insulated conductors, the maximum twist lay of the plurality of pairs being 2.00 inches, with the twist lay of at least some of the conductor pairs being different from that of others, and with the insulation thickness of the conductors of at least some of the pairs being different from that of others of the pairs with the conductors of each of the pairs having a thickness of insulation which provides the pair with a characteristic impedance which is within desirable limits and an acceptable signal attenuation.

2. A telecommunications cable according to claim 1 wherein the twist lay of each conductor pair is different from each other pair.

3. A telecommunications cable according to claim 1 wherein a first plurality of conductor pairs have twist lays within a first range and have substantially the same conductor insulation thickness which is consistent with providing a nominal characteristic impedance for each conductor pair of the first plurality of pairs within the desirable limits and at acceptable signal attenuation, and at least a second plurality of conductor pairs with twist lays within a second range and having the same conductor thickness which is different from that for the first plurality of conductor pairs to provide a nominal characteristic impedance for each conductor pair of the second plurality which is also within the desirable limits and an acceptable signal attenuation.

4. A telecommunications cable according to claim 2 wherein a first plurality of conductor pairs have twist lays within a first range and have substantially the same

conductor insulation thickness which is consistent with providing a nominal characteristic impedance for each conductor pair of the first plurality of pairs within the desirable limits and at acceptable signal attenuation, and at least a second plurality of conductor pairs with twist lays within a second range and having the same conductor thickness which is different from that for the first plurality of conductor pairs to provide a nominal characteristic impedance for each conductor pair of the second plurality which is also within the desirable limits and an acceptable signal attenuation.

5. A telecommunications cable according to claim 3 wherein there are twenty-five conductor pairs including two pluralities of conductor pairs in each of which the conductor insulations are of substantially equal thickness and which is different from that of the conductors of the other plurality.

6. A telecommunications cable according to claim 3 wherein the conductors are each of 24 AWG and have different twist lays from 0.25 to 0.86 inches with the conductors in a plurality of conductor pairs with twist lays within a lower range each having an insulation thickness which is greater than an insulation thickness of the other conductor pairs with twist lays within an upper range.

7. A telecommunications cable according to claim 6 wherein each conductor of a pair within the lower range of twist lays has an insulation thickness of .0095 inches, the lower range being from 0.25 to 0.35 inches, and each conductor of a pair within the upper range of twist lays has an insulation thickness of .0085 inches.